

GREGORY S. BELL

Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA

Division Director

May 1, 2012

Rick Havenstrite Desert Hawk Gold Corporation 1290 Holcomb Avenue Reno, Nevada 89502

Subject: Review 3B—Deleterious Materials Characterization and Related Permit Information, Desert

Hawk Gold Corporation, Kiewit Project Mine, M/045/0078, Tooele County, Utah

Dear Mr. Havenstrite:

The Division of Oil, Gas and Mining has completed a second review of the deleterious materials characterization and related information from the Notice of Intention to Commence Large Mining Operations for the Kiewit Project Mine.

The comments are listed under the applicable Minerals Rule heading. In reply, please address the comments using redline and strikeout text as far as possible, and please include form MR-REV available on the Division's web site.

Please contact me at 801-538-5261, Peter Brinton at 801-538-5258, or Leslie Heppler at 801-538-5257 if you have questions about the review. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker

Minerals Program Manager

PBB: lah; pnb: eb Attachment; Review

cc: Consultant - <u>ogatten@nae-xploration.com</u>

Keith Moeller keith@cliftonmining.com

BLM - Stephen Allen@blm.gov

DEQ - Mnovak@utah.gov

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REVIEW OF DELETERIOUS MATERIALS CHARACTERIZATION & RELATED INFORMATION

Desert Hawk Gold Corporation Kiewit Project M/045/0078 May 1, 2012

R647-4-106.4, -107.4, -110.4 - Appendix V - Kiewit Rock Characterization Studies

The Division understands you would prefer to not change Appendix V as it currently is written. Additional information and corrections to Appendix V are needed; however, you may submit a revision in the form of Appendix V-A or some other form if that is preferred.

Com ment #	Sheet/Page/ Map/Table #	Comments	Initial	Review Action
1	General	Submittal should be formatted to easily incorporate additional revisions and amendments. All revisions are to refer to comment number and also page where revisions were made.	PNB	
2	General	Additional comments from the Division can be generated in the future based on submittals received in the future.	PNB	
3	General	Please include a statement in the text of the NOI committing DHG to additional rock characterization sampling and analysis within 30 days if the Division at any time determines that additional rock characterization is needed.	PNB & LAH	
4	General	The general conclusions reached after studying the Kiewit drill logs should be reported. Those general Kiewit conclusions, together with the conclusions of this Appendix V data, should be included in the body of the NOI, with references to the drill hole logs. The review of Appendix V was delayed to allow for the submittal of conclusions reached after a review of Kiewit drillholes.	PNB	
5	General	Conclusions should identify why additional Kiewit rock characterization is not needed at this time.	PNB	
6	Page 4, 3.0	Identify "chemical analysis" as another of the tests required. Specify type (aqua regia, # of elements, etc).	PNB	
7	Page 5, Table	Identify how the AGP, ANP, and NCV values were calculated.	PNB	
8	Page 5, 4.2	Discuss general findings from the aqua regia digestion chemical analysis. Identify which of the values measured for Pb, Ba, As, Hg, Cd, Cu, Sb, Zn, and Fe (and any others of note) are relatively high, if any.	PNB	4
9	Page 5, 4.2	Since the tests were not done at a meteoric water pH, change section 4.2 to reflect this. Some general conclusions may still be made from the leaching tests done even though it wasn't at a rainwater pH, but justification for the conclusions should be provided.	PNB	
10	Page 5, Table	Identify the units of the AGP, ANP, and NCV values as kg CaCO ₃ /tonne.	PNB	10
11	Page 6, Table	Identify the units of the AP, NP, NNP, and NCV values as kg CaCO ₃ /tonne.	PNB	

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12	Page 6, 4.2	The calculation of NCV uses AP and NP calculations that are different than those provided in the table. For clarity, please revise the NCV equation below the table to include terms of AGP and ANP, not AP and NP. Describe how the AP and NP values in the table were calculated.	PNB
13	Page 8, 4.4.1	This statement should be modified to indicate that drill hole logs indicate that <i>the</i> majority of the waste rock at the Kiewit deposit "is well oxidized and not potentially acid generating (PAG)."	PNB
14	Page 8, 4.4.1	Provide justification for the statement that material is void of significant sulfides and that PAG material is unlikely to be encountered.	PNB
15	Page 8, 4.4.1	Include a commitment that DHG will provide additional rock characterization data in the future within 30 days of a Division request if the Division determines that additional testing is necessary to identify or confirm the presence of deleterious materials.	PNB & LAH
16	Page 8, 4.4.1	Remove the words "in general" from the last sentence of 4.4.1, and add a qualified statement to the end of the sentence, such as: "unless the sulfide ore has been laboratory tested and is known to be non-PAG."	PNB
17	Page 8, 4.4.1	Revise the text to include regular laboratory testing of pit material.	LAH & PNB
18	Page 8, 4.4.2	The Division recommends seeding during the fall. Change the statement so that the best time to seed is in the fall, not the spring.	PNB & LK
19	Page 9, 4.4.3	The stockpile location and stockpile volume identified here should be included on page 22 of the plan and in Figure 5 and any other appropriate figures.	PNB
20	Page 9, 4.4.3	The words "in general" should be removed in order to make bond calculations meaningful.	PNB
21	Page 9, 4.4.4 (NOI body - pages 16 & 23)	There are some inconsistencies between Section 4.4.4 and pages 16 and 23 in the NOI in how PAG is defined that are associated with different ABA reporting methods. Other details are not common between the two references. Here in Appendix V, the ratio and differences of neutralization potential (NP) and acid potential (AP) values are cited (NPR and NNP, under Sobek methods). On page 23 of the NOI, a visual sulfide determination is cited as the way to determine what material will be tested for PAG classification, and an NCV value (calculated using separately-calculated AGP & ANP values) of less than 3 is used to define PAG. Clarify here and on page 23 of the NOI how the PAG material will be defined, including visual process. Both the NOI body and Appendix V should be consistent. Also, since galena (a sulfide) is present in the ore at the Clifton vertical shears, and is to be placed on the pad, the 5% visual sulfide determination could restrict the placement of Clifton shears material off the pad. The NOI text should be modified to address this problem.	
22	Page 9, 4.4.4 (NOI body - p 16 & 23)	The use of estimated sulfur percentages alone to define PAG material is inappropriate if that material's neutralization potential is uncertain. Regular laboratory testing of mined pit material, in addition to visual evaluation, needs to be part of the method for defining PAG and non-PAG material prior to placement.	PNB
23	Page 9, 4.4.4	Correct the units from 20K/MT to include the proper units based on the testing done.	PNB
24	Page 9, 4.4.5	Identify any secondary waste rock dumps on the appropriate maps, and provide any additional volumes and design information on any secondary waste rock dumps. If no other waste rock dumps are planned, remove the term primary.	PNB

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R647-4-106.4, -107.4, -110.4 - Appendix XXIII - Clifton Geochemical Characterization

Comment	Sheet/Page/ Map/Table #	Comments	Initial	Review Action
25	General	The limited sampling of the Clifton area ore bodies has been done at the surface, and may not be indicative of geochemical conditions at depth. Please indicate why additional sampling at depth is not needed.	LAH & PNB	
26	General	Please include a commitment to analyze additional rock characterization samples within 30 days if the Division at any time determines that additional rock characterization is needed.	PNB	
27	General	The conclusions of the final version of this appendix should be discussed in the main text of the NOI.	PNB & LAH	
28	General	The Meteoric Water Mobility Procedure (MWMP) appears to have been performed incorrectly. The decision has been made to not place Smelter Tunnel ore on the leach pad, leaving only two MWMP analyses for the ore samples of the vertical Clifton Shears vein. Explain why additional MWMP analyses are not needed at this time.	PNB	
29	Page 1, Section 1.0	Identify reasons for not including mineralogy or kinetic testing for both ore and overburden/waste. If there are specific and confirmed observations pertinent to this discussion that can be made from field visits and any geology work, they should be included here. Lab data is preferred.	PNB & LAH	
30	Section 4.0	Discuss general findings from the aqua regia digestion chemical analysis. Identify which of the values measured for Pb, Ba, As, Hg, Cd, Cu, Sb, Zn, and Fe (and any others of note) are relatively high, if any.	PNB	
31	Page 1, para 4	Please describe the sample type for each of the 5 initial samples (in-situ channel, stockpile sample, etc).	PNB	
32	Figure 1	 Please do the following to Figure 1 and its legend: The term Clifton Ore Data in the title box should be changed to indicate that more than ore has been analyzed. Identify the five original samples by sampling method and ore/waste. The specific areas (Smelter Tunnel, Clifton Shears – vertical / 100' vein) need to be identified. The areas to be mined and not mined should be identified. The USGS points should be plotted with a note indicating that they are not exact locations. 	PNB & LAH	
33	Page 2, para 1	Identify the sample types of the 2012 samples (from pillars, in-situ, stockpiles, etc).	PNB	
34	Page 2, Exhibit 4, Effluent Results Table (p5)	The Meteoric Water Mobility Procedure report indicates that the test was done with extraction water having a pH of about 7 (see the Effluent Results table, and page 2). MWMP ASTM methods call for the extraction water to have a pH of rainwater, which is about 5.4 in this area. Justification should be given for why additional sampling is not needed at this time.	PNB	
35	Page 3, para 1		PNB	

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36	Page 3, Table 1	Identify the units of the values calculated here for NCV, AGP, and ANP.	PNB
37	Page 5, para 1	Please note here that all Clifton Shears samples were taken from the surface. Modify the first sentence as written from "All of the samples collected" to "The surface samples collected"	LAH
38	Page 5, para 2	Make general conclusions about both the character of both waste and ore for the Smelter Tunnel deposit and the Clifton shears vertical vein deposit based on the lab results. Tabulated data by material type (ore/waste) could be helpful. Include general conclusions in the body of the NOI.	PNB
39	Page 5, para 2	Note that, for the Clifton vertical shear vein sampled, one of the four MWMP sample arsenic values exceeds the EPA/DEQ drinking water limits (used for comparison), and that two other of the four MWMP samples planned for leaching are approximately equal to the revised EPA/DEQ values. These three arsenic values should be identified with the cadmium sample as exceeding the drinking water limits, and conclusions should be made, remembering that these samples do not represent subsurface conditions.	PNB
40	Page 5, para 2	Complete or modify the incomplete sentence about groundwater.	PNB
41	Page 5, para 2	Regarding the statement "There is no evidence of groundwater", rewrite the statement to read "There is little evidence" or give justification as to why "There is no evidence"	LAH
42	Page 5, Figure 1	Since the 130' vein has apparently not been discussed in the NOI to date, please identify the location of this vein on Figure 1 of this appendix.	LAH & PNB
43	Page 5, para 2	Discuss your reasoning for the conclusion that the placement of Clifton Shears ore on the leach pad is "not likely to affect groundwater quality." The Water Resource Report (p6, V.1.c) indicates that "Ground water is contained in the upper zones of clay sand and gravel." Any conclusions made here about groundwater should match the text of the NOI and the Groundwater Discharge Permit, recognizing that additional information can change some conclusions made.	PNB
44	Page 5	Based on the findings, identify reasons for not needing to do additional rock characterization for these samples.	PNB